

National Wildland Fire Assessment Report

National Interagency Fire Center
Predictive Services Group



Issued: August 17, 2002

Wildland Fire Outlook – August through October

Much of the West will see an above normal fire season as the long-term drought continues to persist. The spring and summer weather has been generally warmer and drier than normal. Record high fire danger (over the last 25 years) is being reported in many areas. The late summer and fall weather outlook calls for continued warmer and drier conditions to prevail in the west. The ignition activity remains unknown but any occurrence of lightning will have a high likelihood of initiating a fire, and those fires ignited in forested areas will tend to grow large given the heavy fuel loadings and drier than normal fuel conditions. Given the current fires and normal lightning patterns, fire season will extend well into September and possibly October. For Alaska, the potential for large fires will continue through August, as significant precipitation is needed to mitigate the very dry fuel conditions there. The eastern U.S., central and southern Appalachian area continues in long-term drought even with the summer precipitation they have received. Any period of drying longer than 7-10 days will predispose that area for fire ignitions and growth of those ignitions. The East and Southeast should see increased activity in mid-September carrying into October unless tropical moisture moves in.

Weather

West:

The overall weather pattern for the rest of August will feature a high-pressure ridge off the coast with a predominately northwest flow across the West. This will bring:

- Occasional offshore wind events (gusty winds, very low humidity and warm temperatures) to Oregon and Northern California.
- Hot and dry weather to all of California
- Gusty winds at times to northern Rockies as cold front pass through the region
- Fewer thunderstorms than normal

Overall August through October will be warmer and drier than normal.

Alaska:

Alaska fire activity increased significantly in early August. The weather pattern is beginning to change as rainfall will gradually increase over much of the interior areas beginning the 16th – 18th. Significant precipitation is still needed to relieve the very dry conditions in the interior areas north of the Alaska Range. In general, Alaska is looking for near normal rainfall (usually wet in August) and temperatures through October.

East:

A large ridge of high pressure over the Midwest is bringing gusty northerly winds and very low humidity to the Appalachians and Mid-Atlantic States. This pattern changed around August 12th with a return to more humid and showery weather. The long range outlook for August

through October calls for generally near normal temperatures and rainfall except for **drier than normal weather in the mid-Atlantic and New England States.**

El Niño:

A weak to moderate El Niño has developed over the Pacific will mostly likely continue into the winter. This event is forecast to be much weaker with less of an impact than the 1997-98 event. Little or no effect is expected from El Niño on the fire season this year.

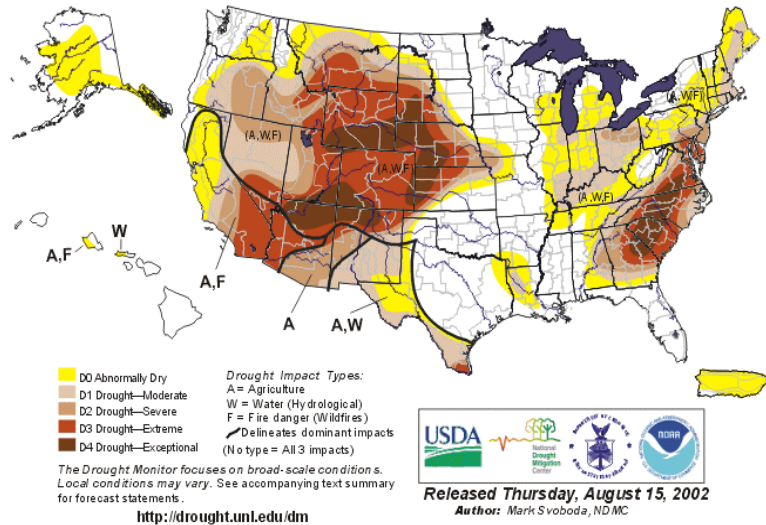
Drought

Drought continues to play a major factor in fire activity in the western US and Appalachian region as conditions are severe enough that normal precipitation amount will only have short-term effects. Any area currently in the extreme or exceptional category is predisposed to fire ignitions and growth following 7-10 days of drying even after significant precipitation events of a few days. This will be a factor for fire activity in northeast Oregon through central Idaho and into southern Montana as the forest fuel structure will hold ignitions through the precipitation events only to show several days later.

An additional factor may be the onset of early frosts at higher elevations, which would impact brush vegetation and result in more available fuel for fire growth

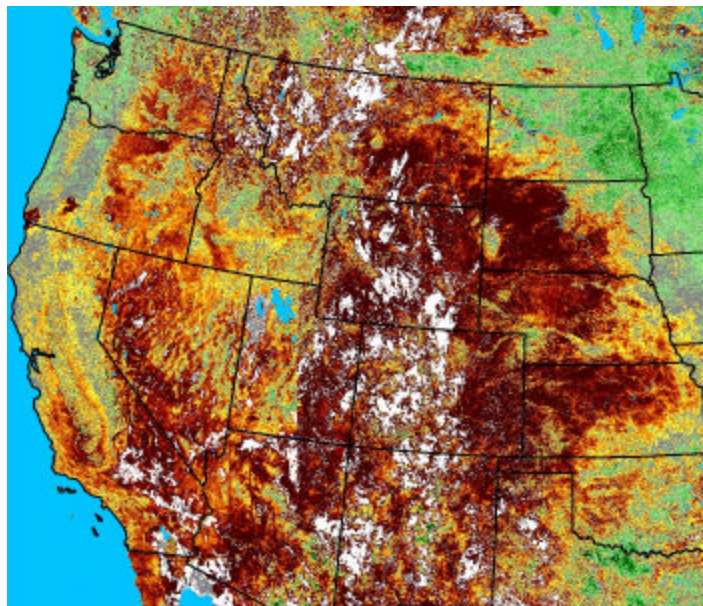
U.S. Drought Monitor August 13, 2002

Valid 8 a.m. EDT



Vegetative Greenness

Departure from Average (DA) Greenness images are used to compare the current vegetation condition to calculated averages for the same time of year. The gray areas on the DA image to the right indicate current conditions are very similar to average for this time period. Green indicates more actively growing vegetation than average, and yellow or red/brown indicates areas of less than average growth, or areas that have cured earlier than normal. One can see the obvious effects of drought on the western US where much of the area is dark red (approximately 50% of average greenness for this time period historically).

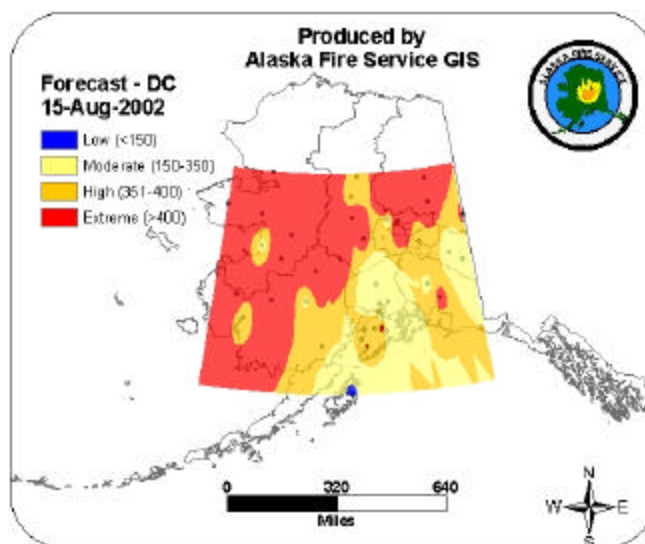


Week ending 8/8/2002

State by State detailed discussion

Alaska: Potential: Normal to Above Normal.

Fire Danger indices in Alaska are presented using the Canadian Forest Fire Danger Rating System as it better reflects the fuels and respond to the observed weather. The Drought Code (DC) is a good index to use later in the summer to gauge fire danger since it reflects dryness in the lower organic layers and resistance to fire extinguishment. Currently, the Drought Code indicates high to extreme fire danger north of the Alaska Range. Current precipitation will moderate fire danger in Alaska, however the potential will remain for continued new ignitions and large fire growth in the central area of Alaska just north of the Alaska Range until significant and sustained moisture is received.



Arizona: Potential: Normal to Above Normal. Fire Danger indices dropped dramatically in the later part of July and early August, however recent warm temperatures and lack of precipitation has caused a resurgence of fire danger levels, especially in the northwestern portions of Arizona. The potential for lightning caused ignitions remains high as the monsoon continued to pump less than average moisture into the area over the past two weeks. Current conditions suggest that potential for large fires (>5,000 acres) remains moderate and may continue at this level for the duration of the fire season unless monsoon moisture increases in extent and frequency.

California: Potential: Above Normal. Much of southern California is setting 150-year seasonal precipitation records this season. Lindberg Field in San Diego only received 3.02 inches of rain since last summer and fire danger indices are at or near record high levels across all of southern California into this will be the onset of early frosts at higher elevations resulting in more available fuel for fire growth. June and July were drier than normal across much of northern California. In northern California, fire danger values in the northern Sierras, northwestern and northeastern portions have exceeded the 90th percentile and continue to climb. The mid-coast area just north of San Francisco has moderated since early August. Long-range forecasts call for above normal temperatures through October. California should expect a very active fire season extending well into fall with an above normal number of large fires, unless significant precipitation is received.

Colorado: Potential: Normal to Above Normal. Energy Release Component values (indicator of fire severity) began declining slowly in early July, but remained near historic maximums until early August when they fell sharply. These values rebounded rapidly over the past two weeks and are once again setting historic maximums across much of the state. The Climate Prediction Center is predicting above average temperatures in September, however there is no increased confidence in the forecast models used to predict precipitation for the remainder of the fire season. Fire potential is expected to remain above average through August with large fires predicted to continue through the season. The patchy nature of the precipitation being received is causing some areas to continue to be very dry and receptive to ignitions.

Idaho: Potential: Normal to Above Normal. Central Idaho transitioned rapidly from below normal to above normal fire danger as fuels in the higher elevations cured over the past several weeks. 1000-hour fuel moistures are currently ranging from 7-15%. NDVI imagery (see discussion of vegetative greenness above) supports this trend. Idaho is forecasted to have above average temperatures in September, which will cause additional drying of fuels and increase the probability of large fire activity by late summer.

Montana: Potential: Normal to Above Normal. Fire danger in the southeastern and extreme northwestern portions of Montana is trending above normal. The Long-Term Palmer Drought Severity Index (PDSI) indicates that most of southern and central Montana remains in the lowest 10th percentile since 1895. Thousand-hour fuel moistures in the northwestern and southeastern portions of the state are running below average for this time of year. Generally they range from 10-17% west of the divide in Montana and Idaho and 8-20% east of the Divide. On average, there are 6 fires greater than 1000 acres from mid-August through the end of October, however more should be anticipated due to the dry conditions in portions of the state. The majority of fire activity is expected to occur in August and September as fuels in the higher elevations continue to cure and dry, especially if the mid-August singularity rains do not arrive until September (<10% probability).

Nevada: Potential: Above Normal. Fuels are cured throughout the state with fire danger indices hovering near or above the 90th percentile in many areas. Rains in July along the Sierra Front moderated fire danger somewhat in early August but this relief was short-lived with warmer than normal temperatures expected through September. Fire potential is expected to remain high through October, however ignitions will be largely dependent on lightning activity, which has been limited so far this month.

New Mexico: Potential: Normal. Precipitation and higher relative humidity has slowed fire activity over the entire state with fire danger levels dropping substantially since late June. Fire potential is normal for this time of year, with a low probability of large fires (>5,000 acres) for the remainder of the fire season.

North and South Dakota: Potential: Normal. The fuels in South Dakota have moderated slightly, but are still at historic levels for Energy Release Component and 1000-hr values. Any fires that escape initial attack may have a high resistance to control given the critical state of the fuels. Conditions began to moderate on August 10th with moisture and cooler temperatures moving across the region. Recent rains in North Dakota have been significant over northern sections of the state keeping fuel moistures near normal for this time of the year. The Black Hills area remains very dry with the highest potential for ignition and fire spread. Both states can expect normal weather conditions for the remainder of the season with above normal fire activity expected in southwest South Dakota. Normal activity is predicted elsewhere in these states.

Oregon: Potential: Above Normal. Normal to above normal fire potential is expected from the Cascade Crest westward through August with increased risk of large fires during the fall east wind events. Central, eastern and a portion of southwest Oregon rapidly transitioned from normal to above normal conditions during the first half of July with several days of 100+ degree temperatures. Current NDVI imagery indicates below normal greenness in much of eastern and southern Oregon and predominantly normal greenness west of the Cascades in Oregon. Only a narrow coastal strip in Oregon shows above normal greenness for this time of year. Long-term weather forecasts call for above normal temperatures through September with a chance of below normal precipitation for the period from September through November. With

no relief to the warm, dry conditions this area is experiencing we anticipate Oregon will see a very active late summer and fall fire season with above average large fire potential.

Washington: Potential: Normal to Above Normal. The west side of the Washington Cascades is showing some seasonal drying with normal fire potential forecasted for the remainder of the fire season. Intermittent moisture in the northwest portion of the state has kept fire danger levels below critical levels so far this year. The Columbia basin area is above normal and given the fuels composition of grass and brush along with wind events typical to this area, the potential for large fires will continue into the fall. NDVI greenness imagery has shown rapid drying east of the Cascades to the Idaho border and more departure from average than last year at this time. Calculated NFDRS live fuel values are near all time lows. The state is expected to have warmer conditions than normal through September and below normal precipitation from September through November. Above normal fire activity is expected east of the Cascades, including the Okanogan, Wenatchee, Colville and Columbia Basin areas, for the remainder of the season.

Utah: Potential: Above Normal. Utah is extremely dry with many RAWS stations reporting NFDRS indices well above historic maximums. The monsoon pattern has been limited to the eastern portion of the state with limited relief and only small amounts of precipitation. Live fuel moistures in pinyon and juniper are critically low as well, with some areas in southern and central Utah reporting moistures near mortality levels. Large fire activity is expected whenever dry lightning episodes occur through the remainder of August. Forecasts indicate that Utah will see warmer than normal temperatures through September with near normal precipitation, which only averages 1.06 inches statewide for August.

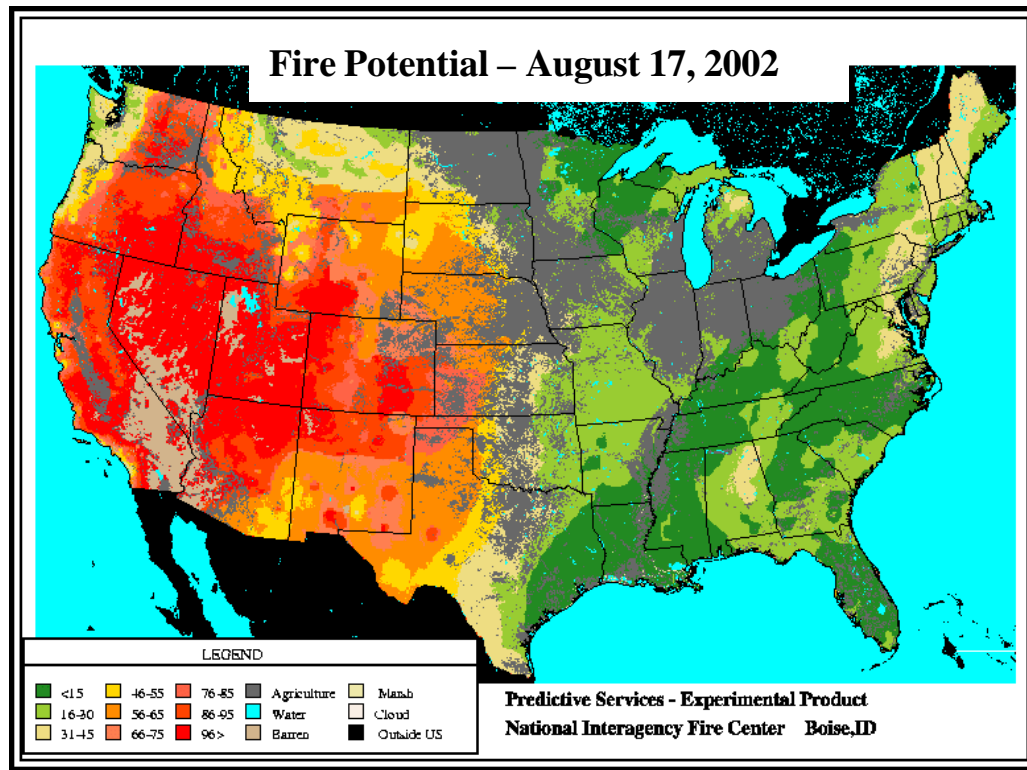
Wyoming: Potential: Normal to Above Normal. Wyoming is experiencing long-term drought conditions over the entire state and fuels are very dry for this time of year. Recent moisture has brought some short-term relief dropping fire danger indices below the 90th percentile in both southern and northwestern Wyoming, however large fires continue to persist. The current potential for large fires ranges between normal to above normal and an active fire season is anticipated for portions of the state with above normal temperatures forecasted through September.

Central Appalachian: Potential: Normal to Above Normal. This area is comprised of southeast West Virginia, western Virginia, eastern Kentucky, eastern Tennessee, and western North Carolina. The entire area is predisposed to the large fire occurrence due largely to a very severe drought. This area is experiencing deficits of several feet of precipitation. Any short-term drying of 7-10 days will dry surface fuels enough to support ignition and spread. As wet thunderstorm activity diminishes in September the area will have an above normal potential for fire activity and large fire growth.

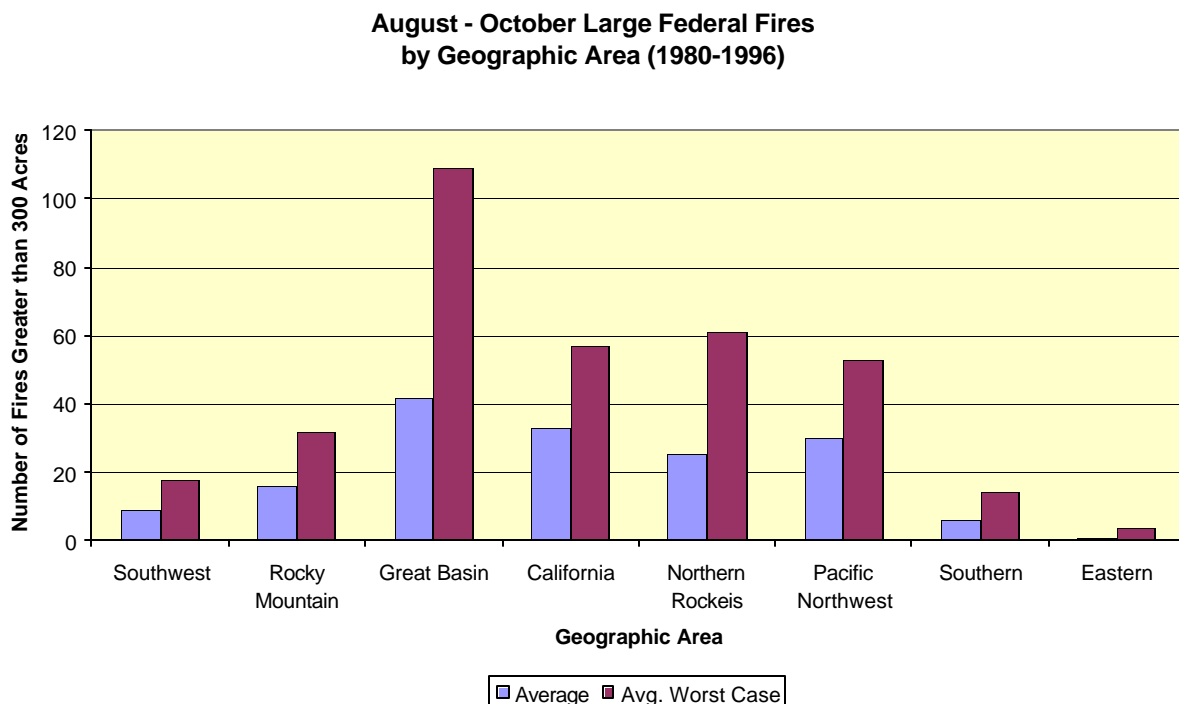
Mid-Atlantic: Potential: Normal to Above Normal. Fire danger indices remain elevated over portions of New Jersey, Delaware, Maryland and southeast Pennsylvania. This area continues to experience long-term drought and any 7-10 day period without precipitation will dry surface fuels enough to support ignition and spread. Expect an above average fall fire season for the eastern portion of this area.

New England States: Potential: Normal to Above Normal. Fire danger potential remains elevated over portions of southern New Hampshire, Massachusetts, Connecticut, Rhode Island, southeastern New York and coastal areas of Maine. This area is similar to the eastern portion of the Mid-Atlantic States and is expected to have an above average fall fire season.

The following image illustrates fire potential for August 17, 2002. The areas in red have the greatest potential for large fire growth. **Note:** This is an experimental product and should be used with caution, especially in the eastern half of the U.S.



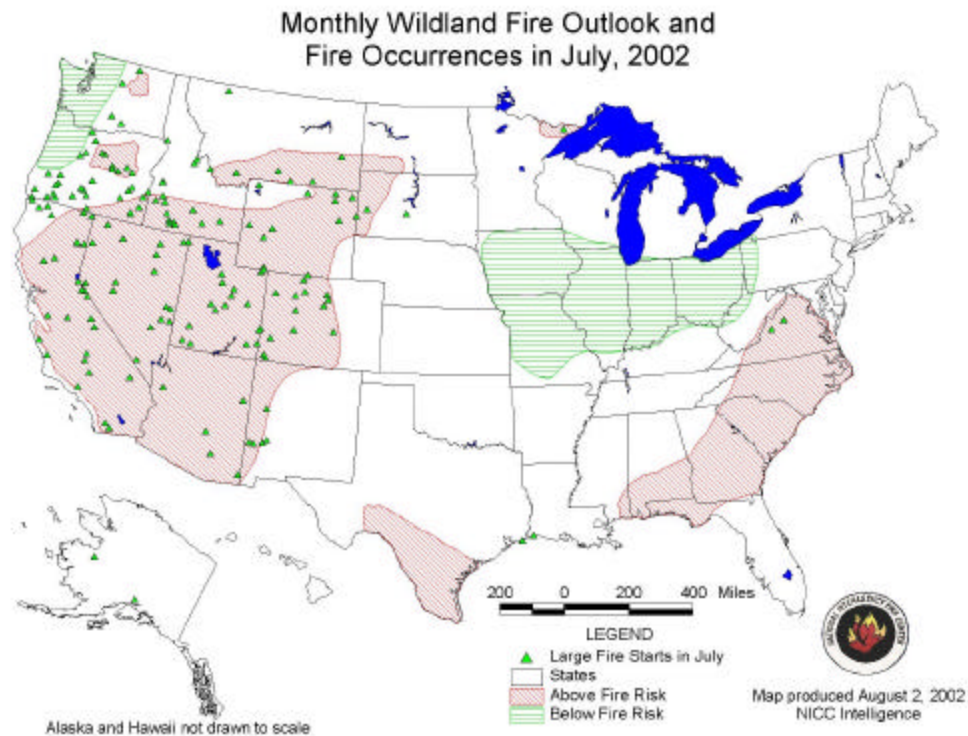
The following graph illustrates the average and average worst-case (the average of the worst 3-5 years) number of Federal fires over 300 acres by geographic area from August through October.



The following table displays the average annual percent of Federal fires that occur during the period from August 1st through October 31st. Many areas currently experiencing large, damaging fires are historically only about 50% of the way through their fire season.

Geographic Area	Percent of Federal fires >300 acres occurring from August through October
Great Basin	46%
Northwest	57%
California	50%
Southwest	27%
Rocky Mountains	47%
Northern Rockies	58%

This image displays the National Wildland Fire Outlook for July overlaid with the actual large fire occurrences for the period.



The following image shows the National Wildland Fire Outlook for the month of August.

